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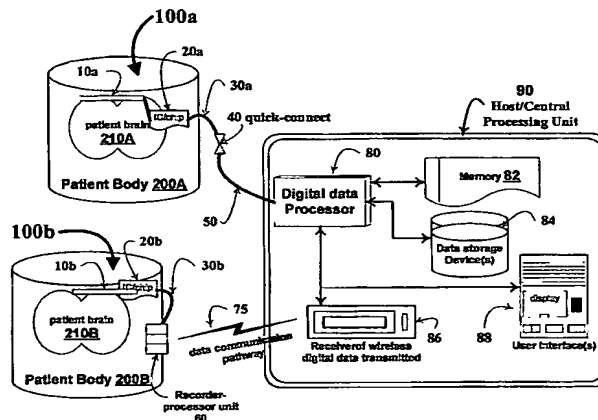
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[Continued on next page]

(54) Title: ACTIVEINVASIVE EEG DEVICE AND TECHNIQUE



(57) Abstract: An electrode device for taking a plurality of EEG measurements, and an associated method of taking EEG measurements, whereby a plurality of electrode contact-points configured atop a support member are in electrical communication with, and in relative proximity to, an integrated circuit comprising converter circuitry adapted for converting analog EEG signals measured, having originated from within a patient, into digital signals prior to transmission thereof to a processing unit. The integrated circuit/circuitry (IC) may be supported by the support member or by a lead assembly having wiring for the digital signal transmission. The support member may have a plurality of layers and be generally flexible; as fabricated of any of a number of flexible, generally insulative biocompatible materials to which circuitry may be etched or deposited, exhibiting sufficient structural integrity to decrease likelihood of degradation during surgery or once implanted. The IC may further comprise circuitry for digital filtering and signal analysis of the digital signals. A quick-connect mechanism located along the lead assembly between the IC and a host processing unit, an antibiotic cuff mechanism located along the lead assembly between the quick-connect mechanism and the patient (to aid in preventing infection), as well as a stabilizer of the lead assembly to a location on the patient (e.g., surgically affixed to the patient's scalp) may be included.

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